BELTRONICS®

MAGNESIUM
CONSTRUCTION

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Model: STi MAGNUM

BELTRONICS®

STi MAGNUM
Professional Series

DIGITAL RADAR • LASER • SAFETY DETECTOR

Owner's Manual

Congratulations

The BELTRONICS STi MAGNUM is the most advanced radar, laser and safety detector ever designed, and is ready to use right out of the box with our recommended factory settings.

The STi MAGNUM includes full X, K, SuperWide Ka, and Safety Warning System radar capability, front and rear laser detection, dual LNA (low noise amplifier) microwave receivers, digital signal processing (DSP) for superior range and reduced false alarms, our patented Mute and AutoMute, audible and visual band alerts, and all the performance you'd expect from BELTRONICS.

In addition, the BELTRONICS STi MAGNUM contains the following revolutionary features:

- Dual LNA (low noise amplifier) receivers provide the longest possible warning against all radar threats.
- Advanced Signal Rejection Software (TSR).
- TotalShield™ RF Technology provides the ultimate in undetectability.
- Programmable Alert Lamp provides additional visual indication of alerts.
- Rugged magnesium case provides the ultimate protection for your investment.
- Ultra-bright text-display provides easy to read information from any angle.
- High and low voltage warning is given any time the vehicle's voltage drops below 10.5 volts, or goes above 16.5 volts.
- Easy-to-use Programming lets you customize up to 9 features.
- Exclusive AutoScan mode intelligently reduces unwanted false alarms.
- Tech Display provides actual numeric radar frequency for any radar signal.
- Programmable Bands (on/off).
- Detects and decodes up to 64 Safety Warning System messages.
- Includes new coiled SmartPlug, which provides a convenient mute button right on the plug.

If you've used a radar detector before, a review of the Quick Reference Guide on pages 4 and 5, and the Programming information on pages 12 and 13 will briefly explain the new features.

If this is your first detector, please read the manual in detail to get the most out of your BELTRONICS STi MAGNUM's outstanding performance and innovative features.

Please drive safely.

FCC Note: Modifications not expressly approved by the manufacturer could void the user's FCC granted authority to operate the equipment.

Quick Reference Card

▼ *Remove card along perforations* ▼

BELTRONICS STi MAGNUM Quick Reference Card

There are 9 user-selectable options so you can customize your STi MAGNUM for your own preferences.

The buttons labeled VOLUME/MUTE and SENS are also used to enter the Programming Mode, REVIEW your current program settings, and to CHANGE any settings as desired. The abbreviations PGM, RVW, and CHG are located on the lower part of the display lens and are highlighted in graphics.

How to use Programming

1 To enter Program Mode, press and hold both VOLUME/MUTE and SENS buttons down for 2 seconds. The unit will beep twice, and will display the word Program.

2 Then press the RVW button to review the current settings. You can either tap the button to change from item to item, or hold the button to scroll through the items.

3 Press the CHG button to change any setting. You can either tap the button to change from setting to setting, or hold the button to scroll through all the options.

4 To leave Program Mode, simply wait 8 seconds without pressing any button. The unit will display Complete, beep 4 times, and return to normal operation.

Factory Default Settings
To reset the STi MAGNUM to its original factory settings, press and hold the "VOLUME/MUTE," and "SENS," buttons while turning the power on. The STi MAGNUM's display will provide a Reset message, accompanied by an audible alert, acknowledging the reset.

An example
Here is how you would turn the STi MAGNUM's AutoMute feature off.

1 Enter the Program Mode by holding both the VOLUME/MUTE and SENS bu down for 2 seconds. The *STi MAGNUM beep twice and display* Program.

2 Then hold the RVW button down. *STi MAGNUM will scroll through the categories, starting with display (*Disp *power-on indication (*Pilot*), then lamp (*Alamp*), Voice, Power-on sequ signal strength meter, and then Auto*

3 Release the RVW button when the MAGNUM shows the AutoMute item. *the factory setting is for AutoMute to the STi MAGNUM will display* aMute

If you accidentally don't release t Review button in time, and the STi MAGNUM goes to the next category, the RVW button down again, and scr through the categories again until aM *is displayed.*

4 Press the CHG button to change fro aMute ON to aMute OFF.

5 To complete the Programming, sim wait 8 seconds without pressing any button. *The STi MAGNUM will display* Complete, *beep 4 times, and return normal operation.*

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Programming Detai

Quick Reference Card

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BELTRONICS STi MAGNUM Quick Reference Card

Press the RVW button to go from one category to the next

Press the CHG button to change your setting within a category

DISPLAY	Disp STD	* Standard display
	Disp INV	Inverted display
PILOT (Power-on indication)	Pilot HWY	* Full word: Highway, AutoScan, etc.
	Pilot H	Letter: H, A, C, or Cnx
	Pilot V	Vehicle voltage
ALERT LAMP	Alamp ON	* Alert lamp on
	Alamp OFF	Alert lamp off
VOICE	Voice ON	* Voice alerts on
	Voice OFF	Voice alerts off
POWER-ON SEQUENCE	PwrOn STD	* Standard power-on sequence
	PwrOn FST	Fast power-on sequence
SIGNAL STRENGTH METER	Meter STD	* Standard signal strength meter
	Meter THT	Threat Display
	Meter TEC	Tech Display
AUTOMUTE	aMute ON	* AutoMute on
	aMute OFF	AutoMute off
BRIGHTNESS	Brt Auto	* Automatic brightness
	Brt Min	Minimum brightness
	Brt Med	Medium brightness
	Brt Max	Maximum brightness
	Brt Dark	All dark
BANDS	Bands DFT	* Default bands
	Bands MOD	Factory default settings modified

Turn bands "ON" or "OFF" by pressing the "SENS" button

X	ON or OFF	*(default is on)*
K	ON or OFF	*(default is on)*
Ka	ON or OFF	*(default is on)*
POP	ON or OFF	*(default is off)*
LSR	ON or OFF	*(default is on)*
SWS	ON or OFF	*(default is off)*
TSR	ON or OFF	*(default is on)*

* Factory Default Settings

◀ *Remove card along perforations* ◀

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Quick Reference Guide

To begin using your STi MAGNUM, just follow these simple steps

1. Plug the small end of the power cord into the side jack of the detector, and plug the large end of the power cord into your vehicle's lighter socket.
2. Mount your STi MAGNUM on the windshield using the supplied windshield mount.
3. Press the PWR button, located on the left side of the front panel, to turn the STi MAGNUM on.
4. Press and hold the VOLUME/MUTE button to adjust the volume level.

Please read the manual to fully understand STi MAGNUM's operation and features.

QuickMount Slot
Insert STi MAGNUM's adjustable Windshield Mount into this slot. *Page 7*

QuickMount Button
Press the button, and slide the Windshield mount into one of its four locking positions. *Page 7*

Power Button (PWR)
Press the PWR button to turn the STi MAGNUM on or off.

AutoMute
STi MAGNUM's patented AutoMute automatically reduces the volume level of the audio alert after a brief period. If you prefer, you can turn AutoMute off. *Page 8*

Programming
The STi MAGNUM is ready to go, just plug it in and turn it on. But you can also easily change 9 features for your preferences. *Pages 12-16*

Radar Antenna and Laser Lens
The rear panel of your STi MAGNUM should have a clear view of the road ahead. For best performance, do not mount the STi MAGNUM directly behind windshield wipers or tinted areas. *Page 6*

Alphanumeric Display
The STi MAGNUM's display will show Highway, AutoScan, City, or City NoX as its power-on indication. If you prefer, you can choose other power-on indications. *Pages 12-15*

During an alert, the display will indicate the radar or laser band, and a precise bar graph of signal strength. *Page 10*

NOTE: In the Dark Mode the display will not light during an alert. *Page 9*

Rear Laser Port
Receives laser signals from behind the vehicle.

Power Jack
Plug the power cord into this connector. *Page 6*

Earphone Jack
Accepts standard 3.5mm mono earphone.

VOLUME•MUTE Button
Press and hold the VOLUME/MUTE button (below the display) to adjust the alert volume level.

Briefly press this button to silence the audio for a specific alert. (The audio will alert you to the next encounter.) *Page 8*

Sensitivity Button (SENS)
Switches between Highway, AutoScan, City and City NoX settings. In general, we recommend the AutoScan mode. *Page 9*

Installation

Power Connection

To apply power to the STi MAGNUM, plug the small end of the power cord, (telephone type connector) into the modular jack on the STi MAGNUM's right side, and plug the lighter plug adapter into your vehicle's lighter socket or accessory socket.

Your STi MAGNUM operates on 12 volts DC negative ground only. The lighter plug provided is a standard size and will work in most vehicles. However, some vehicles may require the optional European sleeve to ensure a snug fit. If so, simply call our service department and we'll send you one. This sleeve slides over the power cord's lighter plug adapter. Of course, your lighter socket must be clean and properly connected for proper operation.

NOTE: Depending on your vehicle, the lighter socket power may either be continuously on, or it may be switched on and off with your ignition switch. We suggest using a direct-wire SmartPlug connected to a switched circuit at the fuse box if the lighter socket is continuously on.

Mounting Location

WARNING: BELTRONICS cannot anticipate the many ways STi MAGNUM can be mounted. It is important that you mount STi MAGNUM where it will not impair your view nor present a hazard in case of an accident.

Where to mount STi MAGNUM

For optimum detection performance, we recommend the following:

• Using the Windshield QuickMount, mount your STi MAGNUM level, and high enough on your front windshield to provide a clear view of the road from the front and rear.

• Mount the STi MAGNUM away from windshield wipers, other solid objects, and heavily tinted areas that might obstruct the radar antenna or laser lens.

Windshield QuickMount

The STi MAGNUM's QuickMount windshield bracket is designed for unobtrusive and hassle-free mounting and removal.

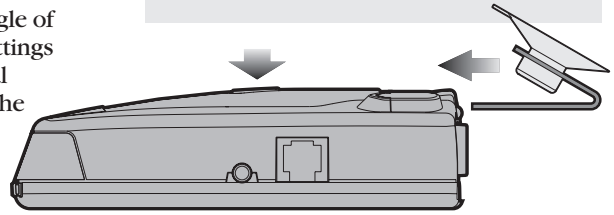
1 Depress the adjustment button on the top of the STi MAGNUM (by the word BELTRONICS) and slide the QuickMount bracket into the slot until it is locked into the position which best fits the angle of your windshield (there are four settings available). For extremely horizontal or extremely sloped windshields, the QuickMount bracket can be bent.

To ensure that the suction cups adhere to the windshield firmly, be sure to keep both your windshield and the suction cups clean.

2 To adjust the STi MAGNUM on your windshield, use the QuickMount adjustment button located on the top of the STi MAGNUM, and slide the STi MAGNUM forward or backward to obtain a level position.

NOTE: When installed and adjusted properly, the back top edge of the STi MAGNUM should rest solidly against your windshield.

CAUTION: A few vehicles (including some Porsches) have windshields with a soft anti-lacerative coating on the inside surface. Use of suction cups will permanently mar this coating. Consult your dealership or the vehicle owner's manual to determine if your windshield has this coating.



User's Tip

You can leave the QuickMount bracket in place on your windshield, and easily remove STi MAGNUM by pressing the adjustment button and sliding the STi MAGNUM off the mount. Again, be sure to position the bracket where it won't present a hazard in the event of an accident. Additional mounts are available for other vehicles in your household.

Controls and Features

Power Button (PWR)
To turn STi MAGNUM on or off, press the PWR button located on the front left side. When you turn STi MAGNUM on, it goes through a sequence of alerts.

If you prefer, you may program your STi MAGNUM for a shorter power-on sequence. See the Programming section for details.

Volume
Press and hold the VOLUME•MUTE button, (or Mute button on the SmartPlug) located in the center of the front panel, to adjust the STi MAGNUM's alert volume level. The audio will ramp up and down, accompanied by a bar-graph on the display. Once you've reached your preferred audio level, simply release the button.

To change the direction of the audio ramping (down instead of up or vice versa) simply release the VOLUME•MUTE button quickly press and hold it again to change its direction.

Power-on indication
After STi MAGNUM's start-up sequence is complete, the alphanumeric display will show Highway, AutoScan, City or City NoX to indicate which sensitivity mode is selected.

If you prefer, you can select alternate power-on displays. See the Programming section for details.

Voice Alerts
The STi MAGNUM provides digital voice announcements (factory default) for alerts.

If you prefer, you can turn off the voice announcement feature and have the STi MAGNUM provide audible tones without the voice announcement. See programming section for details.

AutoMute
Your STi MAGNUM has our patented AutoMute feature. After STi MAGNUM alerts you to a radar encounter at the volume you have selected, the AutoMute feature will automatically reduce the volume to a lower level. This keeps you informed without the annoyance of a continuous full-volume alert.

If you prefer, you can turn the AutoMute feature off. See the Programming section for details.

Mute
The VOLUME/MUTE button, located in the center of the STi MAGNUM's front panel, allows you to silence the audio alert during a radar encounter.

To mute the audio for a single specific signal, briefly press the VOLUME/MUTE button. After that radar encounter has passed, the mute will automatically reset and the audio will alert you to the next encounter.

Sensitivity Button (SENS)
The "SENS" button selects the STi MAGNUM's sensitivity mode. We recommend AutoScan mode for most driving.

Highway Mode (Highway)
In this setting, the STi MAGNUM will detect all signals at maximum range.

AutoScan Mode (AutoScan)
In this setting the STi MAGNUM's internal computer continuously analyzes all incoming signals and intelligently filters out unwanted X and K-band false alarms from automatic door openers and motion sensors. Full sensitivity is maintained on all other bands.

City (City STD)
In this setting, X and K-band sensitivity is further reduced to eliminate unwanted false alarms in congested urban areas.

City NoX (City NoX)
In this setting, K-band sensitivity is the same as City STD, however, X-band is completely turned off.

WARNING: Do not use the STi MAGNUM City NoX mode unless you are absolutely certain that there are no traffic radar guns using X-band in your area.

Brightness
The STi MAGNUM's brightness is controlled by a sensor located behind the front display lens. This sensor will automatically adjust the display and backlit buttons based on the ambient light in your vehicle. If you prefer, you can select a fixed brightness level, including Full Dark Mode. See the programming section for details.

SmartPlug
SmartPlug is a special power cord that has a power-on indicator, a bright alert light that warns of radar or laser, and a convenient mute button right on the plug.

It's the perfect addition for any vehicle where reaching the detector mute button on the windshield is a stretch. And for discreet night driving, put STi MAGNUM in the Dark Mode, and use the SmartPlug for your visual alerts. Other cars won't know you have a detector.

Controls and Features

Audible Alerts

For Radar signals:

The STi MAGNUM uses a geiger counter like sound to indicate the signal strength and type of radar signal being encountered. When you encounter radar, a distinct audible alert will sound and occur faster as the signal gets stronger. This allows you to judge the distance from the signal source without taking your eyes from the road.

X-band = chirping
K-band = buzzing
Ka-band = double-chirp
POP = full double-chirp
SWS = double buzz

For Laser signals:

Since laser signals are a possible threat no matter how weak, the STi MAGNUM alerts you to these bands at full signal strength.

For POP signals:

Since POP signals are extremely fast K or Ka bursts, and a possible threat no matter how weak, the STi MAGNUM alerts you to these bands at full signal strength.

For Safety signals:

The STi MAGNUM will alert you to these signals with a double-beep tone, and a corresponding text message. A complete listing of the text messages is on page 23.

Power Connector

The STi MAGNUM's power jack uses a telephone-type connector. This 4-conductor connector only works with the included coiled SmartPlug or direct-wire cord.

Signal Strength Meter

The STi MAGNUM's alphanumeric display consists of 280 individual LEDs, to provide an intuitive ultra-bright display of signal strength and text messages.

The STi MAGNUM's standard bar-graph signal strength meter only displays information on a single radar signal. If there are multiple signals present, STi MAGNUM's internal computer determines which is the most important threat to show on the bar-graph meter.

When STi detects radar, it displays the band (X, K, Ka), and a precise bar-graph of the signal strength. When the STi MAGNUM detects a laser signal, the display will show "LASER." When it detects a POP signal, the display will show "POP."

NOTE: If you are operating the STi MAGNUM in the Dark mode, the display will not display anything when a signal is detected. Only the audio, and the flashing alert lamp on the SmartPlug will be seen.

Threat Display

Your STi MAGNUM's Threat Display option is an advanced display for experienced detector users. Please use the STi MAGNUM for a few weeks to get familiar with its other features before using Threat Display.

To use the Threat Display instead of the bar graph signal strength meter, you must select Threat Display in the STi MAGNUM's Programming (see pages 12-15).

The STi MAGNUM's Threat Display simultaneously tracks multiple radar signals and their relative signal strength.

Threat Display can help you spot a change in your normal driving environment; for example, a traffic radar unit being operated in an area where there are normally other signals present.

The Threat Display is actually a miniature spectrum analyzer. It shows what band each signal is and its signal strength.

Above is the Threat Display if the STi MAGNUM was detecting a strong Ka-band, a weak K-band, and a weak X-band signal.

A few more examples will help you better see how the Threat Display works.

Here Threat Display shows a strong K-band signal, and a weak X-band signal.

Here Threat Display shows a weak Ka-band signal, and a strong X-band signal.

Threat Display Details

The band designators (X, K, Ka) will stay on the display for a few seconds after the signal has passed. This allows you to see what the unit detected, even on very brief signals.

Tech Display

The STi MAGNUM's Tech Display option is for the experienced detector user. In this mode, the STi MAGNUM will display the actual numeric frequency of the radar signal being received.

Tech Display shows one K-band signal at 24.150 gigahertz.

Even long-time detector users will require a significant amount of time to get familiar with this new level of information about detected signals.

Programming

There are 9 user-selectable options so you can customize your STi MAGNUM for your own preferences. The buttons labeled VOLUME/MUTE and SENS are also used to enter the Programming Mode, REVIEW your current program settings, and to CHANGE any settings as desired. The words PGM, RVW, and CHG are located on the front of the display lens, and are highlighted in colored graphics. Pages 14-16 explain each option in more detail.

How to use Programming

1 To enter Program Mode, press and hold both the VOLUME/MUTE and SENS buttons down for 2 seconds. The unit will beep twice, and will display the word Program.

2 Then press the RVW button to review the current settings. You can either tap the button to change from item to item, or hold the button to scroll through the items.

3 Press the CHG button to change any setting. You can either tap the button to change from setting to setting, or hold the button to scroll through all the options.

4 To leave the Program Mode, simply wait 8 seconds without pressing any button, or press the PWR button. The unit will display Complete, beep 4 times, and return to normal operation.

An example

Here is how you would turn STi MAGNUM's AutoMute feature off.

1 Enter the Program Mode by holding both the VOLUME/MUTE and SENS buttons down for 2 seconds. *The STi MAGNUM will beep twice and display* Program.

2 Then hold the RVW button down. *The STi MAGNUM will scroll through the categories, starting with Display (Disp), Pilot (Pilot), Alert Lamp (Alamp), Voice (Voice), Power-on sequence (PwrOn), Signal strength meter (Meter), AutoMute (aMute), Brightness (Brt), and Bands (Bands).*

3 Release the RVW button when the STi MAGNUM shows the AutoMute item. *Since the factory setting is for AutoMute to be on, STi MAGNUM will display* aMute ON.

If you accidentally don't release the RVW button in time, and STi MAGNUM goes to the next category, simply hold the RVW button down again, the STi MAGNUM will scroll through all of the categories.

4 Press the CHG button to change from aMute ON to aMute OFF.

5 To complete the Programming, simply wait 8 seconds without pressing any button, or press the PWR button. *The STi MAGNUM will display* Complete, *beep 4 times, and return to normal operation.*

Overview of Programming

Press the REVIEW button to go from one category to the next →

Press the CHANGE button to change your setting within a category →

DISPLAY	Disp STD	* Standard display
	Disp INV	Inverted display
PILOT (Power-on indication)	Pilot HWY	* Full word: Highway, AutoScan, etc.
	Pilot H	Letter: H, A, C, or Cnx
	Pilot V	Vehicle voltage
ALERT LAMP	Alamp ON	* Alert lamp on
	Alamp OFF	Alert lamp off
VOICE	Voice ON	* Voice alerts on
	Voice OFF	Voice alerts off
POWER-ON SEQUENCE	PwrOn STD	* Standard power-on sequence
	PwrOn FST	Fast power-on sequence
SIGNAL STRENGTH METER	Meter STD	* Standard signal strength meter
	Meter THT	Threat Display
	Meter TEC	Tech Display
AUTOMUTE	aMute ON	* AutoMute on
	aMute OFF	AutoMute off
BRIGHTNESS	Brt Auto	* Automatic brightness
	Brt Min	Minimum brightness
	Brt Med	Medium brightness
	Brt Max	Maximum brightness
	Brt Dark	All dark
BANDS	Bands DFT	* Factory default settings
	Bands MOD	Factory default settings modified

Turn bands "ON" or "OFF" by pressing and holding the "SENS" but

X	ON *or* OFF	*(default is on)*
K	ON *or* OFF	*(default is on)*
Ka	ON *or* OFF	*(default is on)*
POP	ON *or* OFF	*(default is off)*
LSR	ON *or* OFF	*(default is on)*
SWS	ON *or* OFF	*(default is off)*
TSR	ON *or* OFF	*(default is on)*

* **Factory Default Settings**
To reset STi MAGNUM to its original factory settings, press and hold the "VOLUME/MUTE" and "SENS" buttons while turning the power on. The STi MAGNUM's display will provide a Reset message, accompanied by an audible alert, acknowledging the reset.

Details of Programming

Display

Disp STD
In this setting, the display will provide all information in its normal orientation.

◀ Standard Orientation

Disp INV
In this setting, the detector can be mounted upside down and all information will be inverted so it's readable.

◀ Inverted Orientation

Pilot (Power-on indication)

Pilot HWY (Full description)
In this setting, the STi MAGNUM will display "Highway," "AutoScan," "City," or "CityNox" as its power-on indication. (factory default)

Pilot H (Letter)
In this setting, the STi MAGNUM will display "H" for Highway, "A" for AutoScan, "C" for City, and "Cnx" for City NoX.

Pilot V (Vehicle voltage)
In this setting, the STi MAGNUM will continually display "H" for Highway, A" for AutoScan, "C" for City, and "Cnx" for City NoX, and the vehicle's voltage.

NOTE: When you are using the Dark mode, the display will not display anything. Only the power-on indication on the SmartPlug will illuminate.

NOTE: A high or low voltage warning is given any time the vehicle's voltage drops below 10.5 volts, or goes above 16.5 volts. This feature is always on, regardless of the Pilot setting.

Alamp

Alamp On (alert lamp on)
In this setting, the backlit VOLUME/MUTE will flash on and off during an alert.

AlampOFF (alert lamp off)
In this setting, the VOLUME/MUTE backlit button will not flash on and off during an alert.

Voice

Voice On (Voice announcements on)
In this setting, all radar, laser, and SWS messages (if programmed) will be announced using a digital voice.

Voice Off (Voice announcements off)
In this setting, only the distinct audio tone will be heard when a radar, Laser, or SWS message is detected.

Power-on Sequence

PwrOnSTD (Standard)
In this setting, each time you turn on the STi MAGNUM, it will display "Bel STi," "LASER," "Ka-band," "K-band," "X-band," followed by a brief SWS alert. (factory default)

If any of the factory default bands have been disabled, a double X-band tone and corresponding message (i.e. "X OFF"), will alert you that one or more bands have been turned off.

PwrOnFST (Fast power-on)
In this setting, the STi MAGNUM will provide a single X-band tone if the factory default settings have not been changed. If any of the factory default band settings have been disabled, a double X-band tone and corresponding message (i.e. "X OFF"), will alert you that one or more bands have been turned off.

Signal Strength Meter

MeterSTD (Standard meter)
In this setting, the meter displays the band of the received signal, and a bar graph shows the relative signal strength. (factory default)

MeterTHT (Threat Display)
In this setting, the meter will simultaneously track multiple radar signals, including relative signal strength for each.

MeterTEC (Tech Display meter)
In this setting, the meter displays the actual numeric frequency of the radar signal received.

NOTE: The Tech Display feature is explained in more detail on page 11.

AutoMute

aMute ON (AutoMute on)
In this setting, the STi MAGNUM's audio alerts will initially be at the volume you set, but after a few seconds, the STi MAGNUM will automatically reduce the volume level, to keep you informed, but not annoyed. (factory default)

aMuteOFF (AutoMute off)
With AutoMute off, the STi MAGNUM's audio alerts will remain at the volume you set for the duration of the radar encounter.

Details of Programming

Brightness

BrtAuto

In this setting, the brightness for the display and backlit buttons are controlled automatically by a sensor that measures the ambient light in the vehicle. Sunlight will increase the brightness level, while dim or no light (night driving) will decrease the brightness.

BrtMin

In this setting, the display and backlit buttons are set to a minimum light level. This setting is retained in memory even if the power is turned off.

BrtMed

In this setting, the display and backlit buttons are set to a medium light level. This setting is retained in memory even if the power is turned off.

BrtMax

In this setting, the display and backlit buttons are set to a maximum light level. This setting is retained in memory even if the power is turned off.

BrtDark

In this setting, the display and backlit buttons will be totally dark. The supplied SmartPlug will provide the only visual indication that the STi MAGNUM is operational.

Bands

BandsDFT

In this setting, the factory default settings for radar and laser are monitored.

This is the factory setting, and it is highly recommended that you use your STi MAGNUM in this mode.

BandsMOD

In this setting, STi MAGNUM will warn you with an audible alert, and associated text message stating which band has changed from the original factory setting (i.e. "SWS ON"). This warning is displayed during the start up sequence (standard or fast).

WARNING: Do not turn off a band unless you are absolutely certain that there are no traffic radar guns using that specific band in your area.

Technical Details

Features and Specifications

Operating Bands
- X-band 10.525 GHz ±25 MHz
- K-band 24.150 GHz ±100 MHz
- Ka-band 34.700 GHz ±1300 MHz
- Laser 904nm, ±33nm

Radar Receiver
- Dual-Horn Antenna Casting
- Superheterodyne, dual LNA's
- Scanning Frequency Discriminator
- Digital Signal Processing (DSP)

Laser Detection
- Quantum Limited Video Receiver
- (5) Optical Laser Sensors

Display Type
- 280 LED Alphanumeric
- Bar Graph, Threat Display™ or Tech Display™
- Automatic, plus 4 levels of fixed brightness including full Dark

Power Requirement
- 12VDC, Negative Ground
- Coiled SmartPlug™ with Mute Button (included)

Programmable Features
- Display
- Power-On Indication
- Alert Lamp
- Voice Alerts
- Power-On Sequence
- Signal Strength Meter
- AutoMute
- Display Brightness
- Bands

Sensitivity Control
- AutoScan
- Highway
- City
- CityNoX

Additional Patented Technology
- Auto Calibration Circuitry
- Mute / AutoMute™ / SmartMute™
- TotalShield™ Technology

Dimensions (Inches)
- 1.25 H x 2.75 W x 4.75 L

Technical Details

Interpreting Alerts

Although the STi MAGNUM has a comprehensive warning system and this handbook is as complete as we can make it, only experience will teach you what to expect from your STi MAGNUM and how to interpret what it tells you. The specific type of radar being used, the type of transmission (continuous or instant-on) and the location of the radar source affect the radar alerts you receive.

The following examples will give you an introduction to understanding the STi MAGNUM's warning system for radar, laser and safety alerts.

Alert	Explanation
The STi MAGNUM begins to sound slowly, then the rate of alert increases. The Signal Meter ramps accordingly.	You are approaching a continuous radar source aimed in your direction.
STi MAGNUM emits short alerts for a few seconds and then falls silent only to briefly alert and fall silent again.	An instant-on radar source is being used ahead of you and out of your view.
STi MAGNUM suddenly sounds a continuous tone for the appropriate band received. All segments in the Signal Strength Meter are lit.	An instant-on radar source or laser source is being used nearby. This kind of alert requires immediate attention!
A brief laser alert.	Laser is being used in the area. Because laser is inherently difficult to detect, any laser alert may indicate a source very close by.
STi MAGNUM receives weak signals. These signals may be a little stronger as you pass large, roadside objects. The signals increase in frequency.	A moving patrol car with continuous radar is overtaking you from behind. Because these signals are reflected (reflections are increased by large objects), they may or may not eventually melt into a solid point even when the patrol car is directly behind you.

Alert	Explanation
STi MAGNUM alerts slowly for a while and then abruptly jumps to a strong alert.	You are approaching a radar unit concealed by a hill or an obstructed curve.
STi MAGNUM alerts intermittently. Rate and strength of alerts may be consistent or vary wildly.	A patrol car is traveling in front of you with a radar source aimed forward. Because signals are sometimes reflected off of large objects and sometimes not, the alerts may seem inconsistent.
STi MAGNUM alerts intermittently. Rate and strength of signal increases with each alert.	A patrol car is approaching from the other direction, sampling traffic with instant-on radar. Such alerts should be taken seriously.
STi MAGNUM gives an X-band or K-band alert intermittently.	You are driving through an area populated with radar motion sensors (door openers, burglar alarms, etc.). Since these transmitters are usually contained inside buildings or aimed toward OR away from you, they are typically not as strong or lasting as a real radar encounter.

CAUTION: Since the characteristics of these alerts may be similar to some of the preceding examples, overconfidence in an unfamiliar area can be dangerous. Likewise, if an alert in a commonly traveled area is suddenly stronger or on a different band than usual, speed radar may be set up nearby.

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How Radar Works

Traffic radar, which consists of microwaves, travels in straight lines and is easily reflected by objects such as cars, trucks, even guardrails and overpasses. Radar works by directing its microwave beam down the road. As your vehicle travels into range, the microwave beam bounces off your car, and the radar antenna looks for the reflections. Using the Doppler Principle, the radar equipment then calculates your speed by comparing the frequency of the reflection of your car to the original frequency of the beam sent out.

Traffic radar has limitations, the most significant of these being that it typically can monitor only one target at a time. If there is more than one vehicle within range, it is up to the radar operator to decide which target is producing the strongest reflection. Since the strength of the reflection is affected by both the size of the vehicle and its proximity to the antenna, it is difficult for the radar operator to determine if the signal is from a sports car nearby or a semi-truck several hundred feet away.

Radar range also depends on the power of the radar equipment itself. The strength of the radar unit's beam diminishes with distance. The farther the radar has to travel, the less energy it has for speed detection.

Because intrusion alarms and motion sensors often operate on the same frequency as X-Band or K-band radar, your STi MAGNUM will occasionally receive non-police radar signals. Since these transmitters are usually contained inside of a building, or aimed toward the ground, they will generally produce much weaker readings than will a true radar encounter. As you become familiar with the sources of these pseudo alarms in your daily driving, they will serve as confirmation that your STi MAGNUM's radar detection abilities are fully operational.

How "POP" Works

"POP" mode is a relatively new feature for radar gun manufacturers. It works by transmitting an extremely short burst, within the allocated band, to identify speeding vehicles in traffic. Once the target is identified, or "POPPED," the gun is then turned to its normal operating mode to provide a vehicle tracking history, (required by law).

Traffic Signal Rejection Software

Your radar detector includes a new optional boost in anti-falsing software to eliminate excessive alerts from erroneous X and K-band sources. One example of this is traffic flow monitoring systems. These systems, which are becoming more widely used in several states, generate K-band signals to measure the flow of traffic on interstate highways. Unfortunately most detectors alert to these sources as a real threat. Our new proprietary software (TSR), intelligently sorts, ranks and rejects this type of false alarm automatically. The result is ultimate protection without excessive false alarms.

The TSR software is turned on by default in the Programming section of your detector. If you believe this type of system isn't used in your area, you can simply turn it off. Otherwise, your detector is ready to start protecting you right out of the box.

If you have any questions about this new feature, please give us a call or visit our website for more details.

How Laser (Lidar) Works

Laser speed detection is actually LIDAR (Light Detection and Ranging). LIDAR guns project a beam of invisible infrared light. The signal is a series of very short infrared light energy pulses, which move, in a straight line, reflecting off your car and returning to the gun. LIDAR uses these light pulses to measure the distance to a vehicle. Speed is then calculated by measuring how quickly these pulses are reflected given the known speed of light.

LIDAR (or laser) is a newer technology and is not as widespread as conventional radar, therefore, you may not encounter laser on a daily basis. And unlike radar detection, laser detection is not prone to false alarms. Because LIDAR transmits a much narrower beam than does radar, it is much more accurate in its ability to distinguish between targets and is also more difficult to detect. **AS A RESULT, EVEN THE BRIEFEST LASER ALERT SHOULD BE TAKEN SERIOUSLY.**

There are limitations to LIDAR equipment. LIDAR is much more sensitive to weather conditions than RADAR, and a LIDAR gun's range will be decreased by anything affecting visibility such as rain, fog, or smoke. A LIDAR gun cannot operate through glass and it must be stationary in order to get an accurate reading. Because LIDAR must have a clear line of sight and is subject to cosine error (an inaccuracy, which increases as the angle between the gun and the vehicle, increases) police typically use LIDAR equipment parallel to the road or from an overpass. LIDAR can be used day or night.

Technical Details

How TotalShield™ Technology Works

Beltronic's TotalShield Technology keeps RF signals from radiating from the detector. Unlike other radar and laser detectors, which merely move their RF signals (local oscillators) to another frequency (which will be detectable by future detector-detectors), this revolutionary design keeps you unseen by current radar detector-detectors, including VG-2 and Spectre. This unique design will also keep you unseen from any future radar detector detectors as well.

Although the BELTRONICS STi MAGNUM is a completely undetectable radar, laser and safety detector, driving techniques and reactions to alerts can still draw unwanted attention. Here are a few examples:

1. Hitting the brakes immediately when the STi MAGNUM provides an alert can broadcast use of a detector.

2. Visible power cords, brackets and suction cup marks on the glass can also advertise to others that you have a detector.

3. Traveling at night with a glow from a radar detector's display visible from outside your vehicle can also draw unwanted attention. The STi MAGNUM offers adjustable brightness, including a full dark mode which will provide audio alerts, but no visual indication except for the alert LED on the SmartPlug.

How Safety Radar Works

Safety Warning System, or SWS, uses a modified K-band radar signal. The SWS safety radar system has 64 possible messages (60 currently allocated). The SWS messages your STi MAGNUM can display are listed on the facing page.

From the factory, your STi MAGNUM is programmed with SWS decoding OFF. If you wish to detect this system, use the Programming feature to turn STi MAGNUM's SWS decoding ON.

NOTE: Some of the safety messages have been condensed, so that each message can be displayed on one or two screens on STi MAGNUM's eight-character display.

Since Safety radar technology is relatively new, and the number of transmitters in operation is not yet widespread, you will not receive Safety signals on a daily basis. Do not be surprised if you encounter emergency vehicles, road hazards and railroad crossings that are not equipped with these transmitters. If Safety transmitters become more prevalent, these Safety radar signals will become more common.

SWS Text Messages

Highway Construction or Maintenance

1	WorkZone
2	Road Closed
3	Bridge Closed
4	WorkCrew Highway
5	WorkCrew Utility
6	Detour
7	Truck Detour
8	MustExit
9	Rtlane Closed
10	CntrLane Closed
11	LeftLane Closed
12	*Future use*

Highway Hazard Zone Advisory

13	Police
14	Train
15	Low Overpass
16	BridgeUp
17	Bridge Wt Limit
18	RockSlid Area
19	School Zone
20	Road Narrows
21	Sharp Curve
22	Croswalk
23	Deer Crossing
24	Blind or Deaf Kid
25	SteepUse LowGear
26	Accident
27	PoorRoad Surface
28	Loading SchoolBus
29	DontPass
30	Dangrous Intrsect
31	Emergncy Vehicle
32	*Future use*

Weather Related Hazards

33	HighWind
34	Severe Weather
35	HeavyFog
36	Flooding
37	BridgIce
38	RoadIce
39	Dust Blowing
40	Sand Blowing
41	Blinding Snow
42	*Future use*

Travel Information/Convenience

43	RestArea
44	RestArea w/servic
45	24hrFuel
46	Insp Stn Open
47	Insp Stn Closed
48	Reduced Speed
49	Speed Enforced
50	HazMatls Exit
51	Expect Delay
52	10 Min Delay
53	20 Min Delay
54	30 Min Delay
55	1 Hour Delay
56	Traffic TunRadio
57	Pay Toll
58	Trucks ExitRght
59	Trucks ExitLeft
60	*Future use*

Fast/Slow Moving Vehicles

61	Emerg Veh Moving
62	Police Pursuit
63	Oversize Vehicle
64	SloMovng Vehicle

Troubleshooting

Problem	Possible Cause
STi MAGNUM beeps briefly at the same location every day, but no radar source is in sight.	• An X-band or K-band motion sensor or intrusion alarm is located within range of your route. With time, you will learn predictable patterns of these signals.
STi MAGNUM does not seem sensitive to radar or laser.	• Make sure that windshield wipers do not block STi MAGNUM's radar antenna and that the laser lens is not behind tinted areas. • Determine if your vehicle has an Instaclear®, ElectriClear® or solar reflective windshield which may deflect radar or laser signals. • STi MAGNUM may be in City Mode.
STi MAGNUM did not alert when a police car was in view.	• VASCAR (Visual Average Speed Computer and Recorder) a stopwatch method of speed detection, may be in use. • Officer may not have radar or laser unit turned on.
STi MAGNUM did not provide a Safety signal while within range of an emergency vehicle.	• Safety transmitters may not be commonly used in your area.
STi MAGNUM's display is not working.	• Check programming to be sure the STi MAGNUM is not in Dark Mode.
STi MAGNUM's audible alerts are less loud after the first few alerts.	• STi MAGNUM is in AutoMute Mode. See page 8 for details.
STi MAGNUM bounces or sags on windshield.	• STi MAGNUM is not making contact with the windshield to provide stability. While holding down STi MAGNUM's QuickMount button, slide STi MAGNUM toward the windshield so that the back top edge makes firm contact.
STi MAGNUM's power-on sequence reoccurs while you are driving.	• A loose power connection or dirty lighter socket can cause STi MAGNUM to be briefly disconnected.

Problem	Possible Cause
STi MAGNUM will not turn on.	• Check the PWR is on. • Check that vehicle ignition is ON. • Check that vehicle lighter socket is functional. • Try STi MAGNUM in another vehicle.
STi MAGNUM feels very warm.	• It is normal for STi MAGNUM to feel warm.
Your 14-year old son has changed all 9 of the Programming options.	• You can return all of the programming options to the factory defaults by holding down the VOLUME/MUTE and SENS buttons while you turn the STi MAGNUM on.

Explanation of Displays

No display	STi MAGNUM is in the Dark mode (pages 9, 16)
PilotHWY	One of the many programming messages (pages 12-16)
WorkZone	One of the many Safety Radar messages (pages 22-23)
Caution	STi MAGNUM has detected a Safety Radar Signal, but the signal isn't yet strong enough to decode the specific safety message (pages 22-23)
Service Required	STi MAGNUM has failed the calibration test. Contact Beltronics for repair

Service

Service Procedure

If your STi MAGNUM ever needs service, please follow these simple steps:

1 Check the troubleshooting section of this manual. It may have a solution to your problem.

2 Call us at 1-800-341-2288. We may be able to solve your problem over the phone. If the problem requires that you send your STi MAGNUM to the factory for repair, we will provide you with a Service Order Number, which must be included on the outside of your shipping box.

Enclose the following information with your STi MAGNUM:

- Your Service Order Number
- A copy of your sales receipt
- Your name and return address
- Your daytime telephone number
- A description of the problem you are experiencing

Beltronics Extended Service Plan

Beltronics offers an optional extended service plan. Contact Beltronics for details at 1-800-341-2288.

Out Of Warranty Repairs

For out of warranty repairs, include prepayment in the amount you were quoted by the Beltronics Customer Service Representative. If the detector has been damaged, abused or modified, the repair cost will be calculated on a parts and labor basis. If it exceeds the basic repair charge, you will be contacted with a quotation. If the additional payment is not received within 30 days (or if you notify us that you choose not to have your STi MAGNUM repaired at the price quoted), your STi MAGNUM will be returned, without repair. Payment can be made by check, money order, or credit card.

Ship STi MAGNUM and power cord to:

BELTRONICS
Customer Service Department
Service Order Number _____
5442 West Chester Road
West Chester OH 45069

For your own protection, we recommend that you ship your STi MAGNUM postpaid and insured. Insist on a proof of delivery, and keep the receipt until the return of your STi MAGNUM.

Register online: @ www.beltronics.com

▼ *Remove card along perforations* ▼

BELTRONICS PRODUCT REGISTRATION CARD **BELTRONICS®**

▲ ▲ If you purchased your detector directly from BELTRONICS, you do not need to fill this out.

If you did not purchase your detector directly from BELTRONICS, please fill out this section and return to us, or register online at our web address: www.beltronics.com.

1. First Name_____ Middle Initial____ Last Name_____
   Address_____
   City_____ State_____ ZIP_____
   Phone Number (In case we have a question)_____
2. Product Purchased **BELTRONICS STi MAGNUM** Serial Number_____
3. Place of Purchase_____ Date_____ Price_____
4. Primary reason for purchasing this BELTRONICS product_____
   _____
   _____

BUSINESS REPLY MAIL

FIRST-CLASS MAIL PERMIT NO. 300 WEST CHESTER OH

POSTAGE WILL BE PAID BY ADDRESSEE

ATTN: CUSTOMER SERVICE
BELTRONICS
5442 WEST CHESTER RD
WEST CHESTER OH 45069-9789

NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES

◀ Remove card along perforations ◀

Warranty and Accessories

BELTRONICS One Year Limited Warranty

What this warranty covers: BELTRONICS warrants your Product against all defects in materials and workmanship.
For how long: One (1) year from the date of the original purchase.
What we will do: BELTRONICS, at our discretion, will either repair or replace your Product free of charge.
What we will not do: BELTRONICS will not pay shipping charges that you incur for sending your product to us.
What you must do to maintain this warranty: Show original proof of purchase from an authorized BELTRONICS dealer.
Warranty Exclusions: Warranty does not apply to your product under any of the following conditions: 1. The serial number has been removed or modified. 2. Your product has been subjected to misuse or damage (including water damage, physical abuse, and/or improper installation). 3. Your product has been modified in any way. 4. Your receipt or proof-of-purchase is from a non-authorized dealer or internet auction site including E-bay, U-bid, or other non-authorized resellers.
To obtain service: 1. Contact BELTRONICS (1-800-341-2288) to obtain a Return Authorization number. 2. Properly pack your product and include: your name, complete return address, written description of the problem with your product, daytime telephone number, and a copy of the original purchase receipt. 3. Label the outside of the package clearly with your Return Authorization number. Ship the product pre-paid (insured, for your protection) to: Beltronics Inc, 5442 West Chester Rd., West Chester, OH 45069.
LIMITATION OF WARRANTY: EXCEPT AS EXPRESSLY PROVIDED HEREIN, YOU ARE ACQUIRING THE PRODUCT "AS IS" AND "WHERE IS," WITHOUT REPRESENTATION OR WARRANTY. BELTRONICS SPECIFICALLY DISCLAIMS ANY REPRESENTATION OR WARRANTY INCLUDING, BUT NOT LIMITED TO THOSE CONCERNING THE MERCHANTABILITY AND SUITABILITY OF THE PRODUCT FOR A PARTICULAR PURPOSE. BELTRONICS SHALL NOT BE LIABLE FOR CONSEQUENTIAL, SPECIAL OR INCIDENTAL DAMAGES INCLUDING, WITHOUT LIMITATION, DAMAGES ARISING OUT OF THE USE, MISUSE OR MOUNTING OF THE PRODUCT.
The above limitations or exclusions shall be limited to the extent they violate the laws of any particular state. BELTRONICS is not responsible for products lost in shipment between the owner and our service center.
Other legal rights: This Warranty gives you specific rights. You may have other legal rights, which vary, from state to state.

Accessories

The following accessories and replacement parts are available for the BELTRONICS STi MAGNUM:

Standard Coiled Power Cord
$14.95
Direct-wire Power Cord
$14.95
Coiled SmartPlug
$29.95
Direct-wire SmartPlug
$29.95
Accessory Kit
$14.95
Windshield Suction Cups Mount
$9.95
Zippered Travel Case
$14.95